*

"لأنه القادر أن يفعل فوق كل شئ أكثر جداً مما نطلب أو نفتكر".

"ملقين كل همكم عليه لأنه هو يعتنى بكم".

المحاضرة الأولى
د/ نجوى

RESPIRATORY INFECTIONS

Clinical
(Lec. 1)
Dr/Naqwa.

٢٠٢٥

* ازيكم يا شباب ؟! عجبتكوا المحاضرة اللى فاتت ؟! يارب اكون قدرت أبسط الدنيا شوية ...

* احنا اخدنا المرة اللى فاتت ال GIT infections ، المحاضرة دى هناخد ان شاء الله ال Resp. infections والمحاضرة التالتة هتبقى ال UTI وكده تبقى د/ نجوى خلصت معانا جزءها .. بعدها هييجى د/ أسامة ان شاء الله...

* قبل ما نبتدى نشوف الامراض ، هنشوف ازاى بيقسموا ال Resp. tract : الى Upper & lower Resp. tract وعلى أساس كده هيقسموا الامراض ، حاجات بتصيب ال Upper Resp. tract وحاجات بتصيب ال Lower Resp. tract ... يلا نبتدى ....

* Respiratory Tract *

Upper Resp. tract

_ consists of:
1_ The Sinuses
2_ Middle ear.
3_ Pharynx.
4_ Epiglottis
5_ larynx.

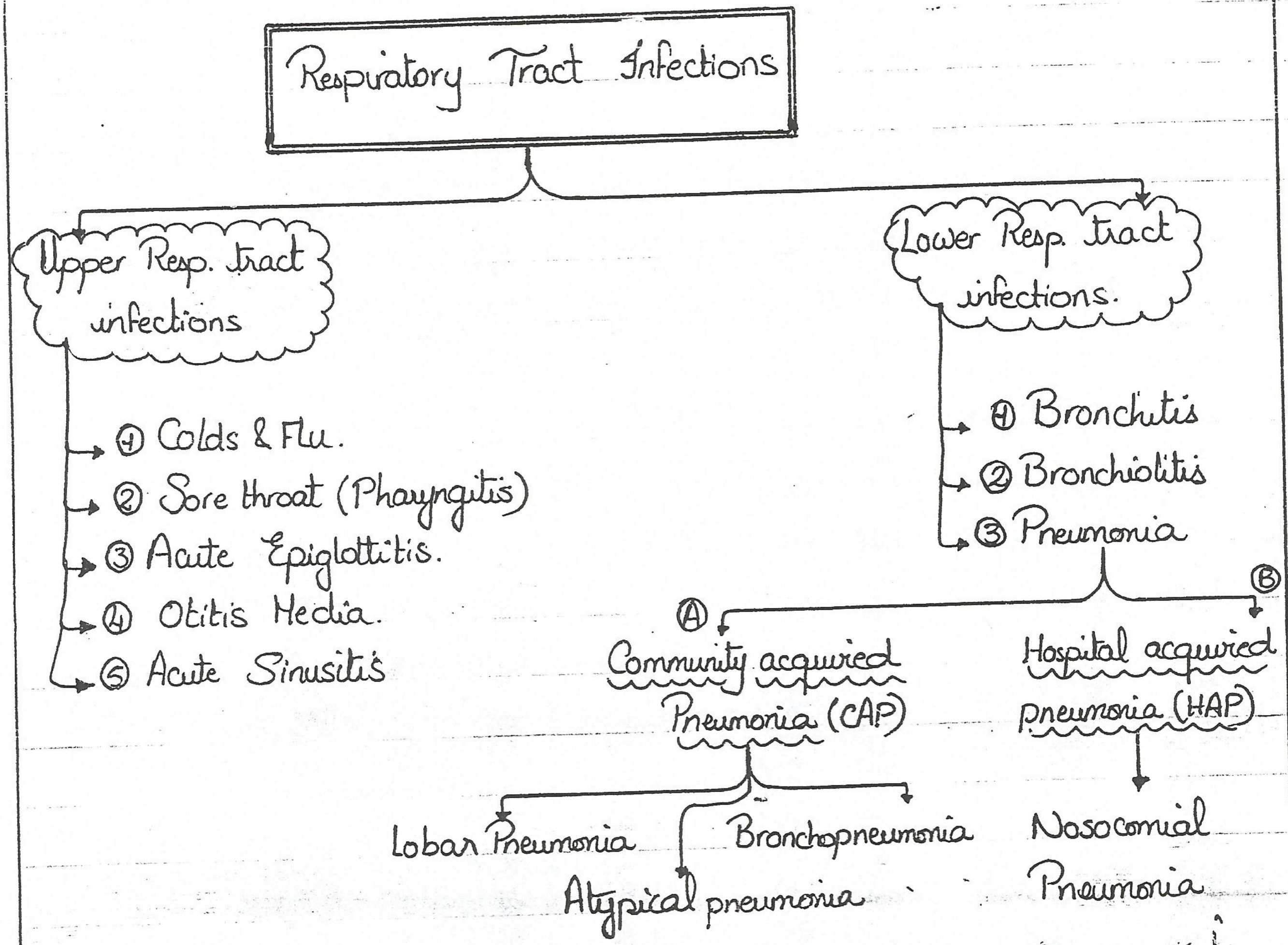
Lower Resp. tract

_ consists of the structures below the larynx:
1_ The Bronchi
2_ The Bronchioles.
3_ The alveoli.

* وبناءً على التقسيمة دى ، قسموا الامراض زى ما قولنا الى :

Upper & Lower Resp. tract infections

* انا هعملكم تقسيمة للأمراض دى علشان تبقوا عارفين احنا هنمشى ازاى لحد آخر المحاضرة ...


Respiratory Tract Infections
Upper Resp. tract infections
① Colds & Flu.
② Sore throat (Pharyngitis)
③ Acute Epiglottitis.
④ Otitis Media.
⑤ Acute Sinusitis
Lower Resp. tract infections.
① Bronchitis
② Bronchiolitis
③ Pneumonia
Ⓐ Community acquired Pneumonia (CAP)
Ⓑ Hospital acquired pneumonia (HAP)
Lobar Pneumonia
Bronchopneumonia
Atypical pneumonia
Nosocomial Pneumonia

* هى دى المحاضرة .. والعناوين دى هى اللى هنتكلم فيها .. انا هحاول امشى كل المواضيع بنفس النظام علشان تبقى سهلة تتذاكر .. هناخد الآتى فى كل مرض :

1. Causative org.
2. Symptoms.
3. Complications
4. Diagnosis
5. Treatment

* يلا نبتدى بال Upper Resp. tract Infections .....

I Upper Respiratory Tract Infections

1 COLDS & FLU.

* **Definition:**

" Viral upper resp. tract infections causing coryzal symptoms, rhinitis, pharyngitis & laryngitis associated with varying degrees of systemic symptoms are extremely common."

* دى الاعراض بتاعة المرض، وخلوا بالكم اوى انا سببه " Virus " مش "Bacteria" علشان ده هيفرق طبعاً فى العلاج ..

* طب ايه الفرق بين الـ Cold والـ Flu ؟!

* Milder infections are termed → "Colds"
while more severe infections are termed as → "Flu".

---

① Causative organism:

Viruses from:
- Rhinovirus
- Coronavirus
- Parainfluenza virus
- Influenza virus
- Resp. syncytial virus
- Adenovirus.

* الدكتورة قالت انها مش عايزانا نحفظ اسامى الـ m.o. بس نعرف الحاجات المميزة .. مثلاً؟ يعنى هنا لازم نعرف انه سببه Virus ولو فى حاجة مهمة مميزة اوى زى مثلاً الـ Influenza virus ..

---

② Symptoms:

* عندنا الأول الأعراض العامة اللى قلناها فوق فى الـ definition ، اللى هم :

* coryzal symptoms, rhinitis, pharyngitis & laryngitis associated with varying degrees of systemic symptoms are extremely common.

* True Influenza → that is infection with one of the influenza viruses: A, B or rarely C → can be a serious condition characterized by: marked malaise & myalgia and potentially complicated by life threatening 2ry bacterial infections such as Staphylococcal pneumonia.

* وفى الحالة دى بس (إنه يتقلب الى 2ry bact. infection) ← يبقى ممكن أدى antibiotic ، لكن البرد لوحده ← ده viral infection مش هيعمل معاه الـ Ab أى فايدة فملوش لازمة (سامعين ؟! ← hehe) ، كل اللى محتاجه فى البرد هو الـ rest و symptomatic ttt .

---

③ The Treatment:

* → Symptomatic ttt include:

1- Rest.
2- Adequate hydration.
3- Simple analgesics.
4- Antipyretics.

* Inhaled Zanamivir is about 75% effective in preventing influenza during periods of exposure.

---

* كده خلصنا أول مرض فى الـ upper Resp. tract inf. .. يلا على اللى بعده ...

2 Sore Throat (Pharyngitis)

*** Definition:**

Pharyngitis is a common condition being treated with simple therapy directed at symptom relief.
Many cases are not due to infection at all, but are caused by other factors such as smoking.

① Causative organisms:

* Most cases are of viral aetiology & reflect part of "the cold & flu" spectrum.

* يعني غالباً سببها بيكون viral ومنهم الـ viruses اللي كانت بتسبب الـ cold & flu ومن الـ viruses المهمة اللي بتعمل sore throat :

* Epstein-Barr virus (EBV): مهمة
is a less common but important cause of sore throat.

*** Bacterial causes:**

1- There is only one common bacterial cause of sore throat → Streptococcus pyogenes → the gp A B-hemolytic streptococcus.

2- less common causes include B-hemolytic streptococci of groups C & G & Acranobacterium haemolyticum, Neisseria gonorrhoea and Mycoplasma.

متحفظوش الاسامي الغريبة دي ، كفاية تعرف strep. Gp C & G وسيبك من الباقيين

3. Corynbacterium diphtheria → is the cause of diphtheria in travellers returning from parts of the world where diphtheria is common.

---

② Clinical Features : (Symptoms)

* Many cases are associated with fever & the usual symptoms of common cold.
* More severe cases are associated with infection due to EBV or Streptococcus pyogenes. In these patients, there may be: Marked inflammation of the pharynx with a whitish exudate on the tonsils + enlarged & tender cervical lymph nodes.

---

③ Complications :

of Group A streptococcal infection :

- Otitis media &/or sinusitis
- Non suppurative complications of streptococcal infections
- Rheumatoid fever.
- Glomerulonephritis.

---

④. Diagnosis :

* هي الفكرة ان احنا عايزين نعرف سبب الـ infection، سواء viral أو bacterial
علشان لو bacterial ← يبقى اقدر اديله antibiotic، لكن لو viral ← مش هادي ...
طب هاعرف منين ؟! ← بياخدوا throat swab ويعملوا منها culture، صعب اوي
يعرفوا بالضبط نوع الـ m.o.، لكن اكتر حاجة common زي ما قلنا هي الـ
B-hemolytic streptococci، فلو طلعت +ve culture ← يبقى هنعتبرها كده (الا لو
عندي حاجة في الـ case بتقول انها غير كده، زي مثلاً واحد راجع من السفر من

بل فيها diphtheria ← يبقى ده ممكن يكون (diphtheria

← ولو الـ culture طلعت (-ve) ← يبقى نشك فى الـ EBU و نعمل serology
علشان نتأكد ...

* Bacteriological diagnosis cannot be made & these are presumed to be viral in origin.

* The aim of any diagnostic procedure is to distinguish the streptococcal sore throat, which is amenable to antibiotic treatment, from viral infections, which are not.

* If streptococcal infection is suspected, a throat swab should be taken for culture.

* Unless the details of a particular case prompt a search for more unusual organisms → culture techniques are directed towards detecting β- hemolytic streptococci.

* If bacterial culture is negative & EBV infection is suspected → blood should be taken for serology.

---

⑤ Treatment :

* Treatment of viral sore throats is directed at symptomatic relief → for example : Rest, antipyretics & aspirin gargles.

* If streptococcal infection is suspected → ttt may be started before the results of throat swab culture are known.

* يعني لو شكيت فى الـ streptococci ← مش لازم استنى لحد ما نتيجة الـ culture
تطلع ، ابتدى Ab ولو طلعت (+ve) يبقى أكمل ...

* Antibiotics effective against Strept. pyogenes include:

1 Penicillins:

- such as: Benzyl penicillin (penicillin G) or Phenoxymethyl penicillin (penicillin V)

→ these are considered as * TT of choice * for streptococcal sore throat.

* مهم جداً جداً ١٥ حاجة فيها ttt of choice ، الدكتورة قالت انها ممكن تيجي تسألنا
على الـ ttt of choice بتاع كل مرض ...

- Amoxicillin → is well absorbed & is conventially given 3 times daily.

however, since pts with glandular fever are highly likely to develop skin rash with: ampicillin, amoxicillin or related drugs.

∴ these agents shouldn't be used unless EBV has been confidently excluded.

---

2 Cephalosporins:

eg: Cefalexin is the preferred one.

- Cephalosporins are more effective both in terms of clinical response & eradication of the org. from the oropharynx.

بس برده مين الـ ttt of choice !!

→ Penicillin G & V

3 Macrolides:

Even with sensitive strains → macrolides (such as: Erythromycin) → are less effective than β-lactams

* كده خلصنا تانى مرض كمان ... يلا نشوف اللى بعده ...

3 Acute Epiglottitis

*** Definition:**

It is a rapidly progressive cellulitis of the epiglottis & adjacent structures.

Local swelling has the potential to cause rapid-onset airway obstruction & for this reason, the condition is a medical emergency.

* يعنى ال epiglottis بتورم، وممكن كده تقفل ال airway ويتخنق، علشان كده لازم تتلحق على طول.

① Causative org:

- Haemophilus influenzae type B (Hib)
- A smaller proportion were caused by other organisms such as: pneumococci, streptococci & staphylococci

② Clinical features (symptoms):

مهم تعرف السن اللى بيجيله

- the typical pt is a child between 2 & 4 years with: fever & difficulty speaking and breathing.

③ Diagnosis:

- diagnosis is made clinically & the initial managment is concentrated upon establishing or maintaining an airway.
- The diagnosis may be confirmed by the visualization of the cherry-red epiglottis →

مهمه دي

- Microbiological confirmation may be obtained by culturing the epiglottis & the blood.

④ Treatment:

- The treatment of choice is with 3rd generation cephalosporins, such as: Cefotaxime or Ceftriaxone.
- If a sensitive org. is recovered → high dose parentral amoxicillin may be substituted

* مهم جداً الـ ttt of choice ...

خلصنا المرض ده كمان ... في السريع أهو ...

كن مطمئناً جداً جداً ...
ولا تفكر في الامر كثيراً ...
بل دع الامر لمن بيده الامر ...

4 Otitis Media

* Definition:

Inflammation of the middle ear (otitis media) is a common condition seen most frequently in children under 3 years of age.

① Causative organisms:

* Most cases are due to bacteria:

- Streptococcus pneumoniae & H. Influenza → are the 2 most commonly encountered bacterial pathogens.
- Maroxella catarrhalis & strept. pyogenes & other bacteria are seen only rarely.

* Some viruses: such as: Influenza virus & Rhinovirus → are implicated in a sizeable minority. (يعني قلة .. بس موجودين).

② Clinical features (Symptoms):

1. Ear pain, which may be severe.
   If the drum perforates → the pain is relieved and a purulent discharge from the ear may follow.
2. There may be a degree of hearing impairment.
3. Non specific symptoms, such as: fever or vomiting → in very young children.

③ Complications:

Include:
1. Mastoiditis
2. Meningitis
3. Particularly in case of H. influenzae infection → Septicaemia & disseminated infection.

* ال Mastoiditis ← معناها Inflammation of mastoid bone وال bone دى موجودة ورا الودان ooo

---

④ Diagnosis:

* المشكلة هنا إنى علشان اعرف اعمل diagnosis واعرف ال causative org. ←
لازم تكون ال drum اتخرمت وانا آخد من ال exudate اللى بيطلع منها oo
- لكن لو ال drum سليمة oo مالوش اى لزمة آخد swab من ال external ear
مش هلاقى فيها حاجة oo يبقى لو لقيت ال drum سليمة ← هادى العلاج
emperical ooo

* Clinical & lab investigations have little role to play.
* Unless the drum is perforated → there is little sense in sending a swab of the external auditory canal → the results of which are likely to be unhelpful or misleading.

∴ For this reason → a causative org. is rarely isolated & ttt has to be given empirically.

---

⑤ Treatment :

* If ttt is to be given → it should be effective against the 3 main bacterial pathogens :

Strept. pneumoniae , strept. pyogenes & H. influenzae

Strept. pneumoniae & strept. pyogenes → these 2 are sensitive to penicillin

H. influenzae → penicillin is less active against it

∴ the broader spectrum agents : amoxicillin or ampicillin → should be used instead

* Patients with penicillin allergy → may be treated with a later generation cephalosporins.

* If there is no response to amoxicillin → an alternative agent should be used :

- Both Erythromycin & the earlier oral cephalosporins, such as : Cefalexin
  → are insufficiently active against H. influenzae & shouldnot be used.

- Alternatives include : - Co-amoxiclav.
  or - one of the newer oral cephalosporins such as : Cefixime → It has high activity against H. influenzae in vitro (but it is poorly absorbed & often causes diarrhea)

5 Acute Sinusitis

* Definition:

من اسمها كده ← هى التهاب فى ال sinuses .. المعروف ان ال sinuses تكون sterile ← لكن لو جالها viral infection ، بيحصل damage فى ال mucus memb. اللى lining ال sinuses وهوده اللى بيعمل ال Inflammat^n ...

ممكن كمان يكون السبب هو مشكلة فى الاسنان...

"Normally, the paranasal sinuses are sterile & sinusitis follow damage to the mucus memb. which lines them which occurs following a viral upper resp. tract infection but is sometimes associated with the presence of dental disease"..

---

① Causative org.:

- * Acute sinusitis is usually caused by the same organisms which cause otitis media,
  but, occasionally other org. such as: staph. aureus, viridans streptococci & anaerobes may be found.

- * Viruses are occasionally found in conjugation with the bacteria.

---

② Clinical Features (Symptoms):

1. Facial Pain.
2. Tenderness
3. often accompanied by: - headache
   - purulent nasal discharge.

---

③ Complications:

Include:

1. Frontal bone osteomyelitis.
2. Meningitis.
3. Brain abscess.

- The condition may become chronic with persistent pain & nasal discharge, sometimes with acute exacerbations.

* الناس اللي عندها chronic sinusitis ، بتحس انها عندها برد على طول ...
بتلاقيهم بيسحوا طول السنة .. here .. بس بتبقى متعبة أوي ...

---

④ Diagnosis:

* As with otitis media → this is a clinical diagnosis & obtaining specimens for bacteriological examination is not usually practicable.

* In patients with chronic sinusitis → therapeutic sinus washouts may yield specimens for microbiology.

---

⑤ Treatment :

* Since the causative org. are the same as those found in otitis media
∴ The same recommendations for ttt apply.

* Proximity to the mouth means that anaerobes are implicated quite frequently in acute sinusitis
∴ The addition of Metronidazole may be worthwhile.

* Doxycycline has proved popular acceptance, why?! → مهم اوي

bec.: ① It has broad spectrum of activity } علشان كده الناس تفضل تاخده ...
② taken as once daily dosage.

---

* كده نبقى الحمد لله خلصنا الـ upper resp. tract infections .. ندخل على الـ lower دلوقتي ...

II Lower Respiratory Infections

1. Bronchitis
2. Bronchiolitis.
3. Pneumoniae.

* والمنهج فيه برده بنفس النظام اللى مشينا بيه فى الـ upper Resp. Infections ..
→ معلش، انا عارفة انها محاضرة مستفزة بس ربنا يقوينا ويقويكم ...

1 Bronchitis

* Definition:

"Inflammation of the bronchi".

- Acute bronchitis → is usually infective.
- chronic bronchitis → can be defined both:
  - clinically: production of sputum on most days for 3 or more consecutive monthes during 2 or more years.
  - Pathologically: thickened, oedematous bronchial mucosa with mucus gland hypertophy.

  & often coexists with emphysema → giving rise to:
    - COAD (chronic obstructive airway disease)
    - COPD (chronic obstructive pulmonary disease)
    - CAL (chronic airway limitation)

* يعني الامراض دى ممكن تحصل لو واحد عنده bronchitis وما اتعالجش وبقى chronic

---

① Causative organisms:

a) Viruses: suchas:
- Rhinovirus
- Coronavirus
- adenovirus
- Influenza virus

b) Bacteria : such as:
- Bordetella pertussis
- Chlamydia pneumoniae
- staph. aureus
- Gm-ve bacilli
- Mycoplasma pneumoniae
- Moraxela catarrhalis
- haemolytic streptococci

...

② Clinical Features:

1. Cough productive of purulent sputum
البلغم (phlegm that is yellow or green, the color representing the presence of pus cells)

2. Sometimes with wheezing & breathlessness.

③ Diagnosis:

* A sputum sample should be sent for bacteriology, which will at least allow antibiotic sensitivity tests to be performed on potential pathogens.

* The sputum of patients who have received broad spectrum agents such as: Amoxicillin or cephalosporins → frequently yields org. such as: Gm-ve bacilli, staphylococci & yeasts.

④ Treatment:

Includes: a) Supportive care
b) Antibiotic therapy.

* يلا نشوف هنعمل ايه ف كل واحدة من دول ٠٠٠

a) Supportive therapy:

consists of:

- physiotherapy → to aid expectoration of secretions
- bronchodilators.
- sometimes corticosteroids.
- In severe cases → a period of artificial ventilation may be required.

---

b) Antibiotic therapy:

* Amoxicillin is the Drug of choice

* If β-lactamase producing strains of H. influenzae are confirmed or suspected → Use Co-amoxiclav.

* For penicillin allergic pts → Cefaclor is slightly active but is associated with a high incidence of skin SEs., especially in children.

* Newer oral cephalosporins, such as: Cefixime & Cefpodoxime → are much more active against H. influenzae while retaining activity against pneumococci.

* The macrolide clarithromycin, trimethoprim or Tetracyclines → are also active.

---

* ده كده اللى هعمله فى ال bronchitis لو حصل لوحده .. لكن لو كان وصل الى COAD ..
هنعمل ايه ؟؟ ← ...Plz turn over.

* The following recommendation can be made for the antibiotic ttt of acute bronchitis & exacerbations of COAD:

- 1st line agents are: Amoxicillin, Doxycycline, Trimethoprim.
- 2nd line agents are: Co-amoxiclav, Cefixime, Clarithromycin.
- Azithromycin is not recommended, why?!
  → bec. it is less active against strep pneumoniae than clarithromycin.
- Trimethoprim is as effective as Co-trimoxazole in this condition
  ∴ Trimethoprim alone is preferred due to the higher toxicity of Co-trimoxazole.

* صباح الصبر يعني ... مش عارفة بصراحة هنحفظ الكلام ده كله ازاي ... الله اعلم ..

* كده خلصنا أول واحد .. يلا نخش تاني واحد اللي هو Bronchiolitis .. ايه الفرق
بينهم ؟! ـــ ال Bronchitis ده inf. of bronchi ، ال Bronchi دي
لما تتفرع هتدي bronchioles دي اصغر من ال bronchi ، لو حصل inf. of bronchioles
المرة دي .. هتبقى Bronchiolitis ، ماشي ؟!

2 Bronchiolitis

* Definition:

"Inflammatory changes in the small bronchi & bronchioles".

* It is a disease of infants in the 1st year of life, in whom a small degree of airway narrowing can have drastic effects on airflow.
but, the causative org. are no less capable of infecting adults who may act as a reservoir of infection.

يعني هي ممكن تيجي للكبار كمان .. بس هيبقوا carrier للمرض بس ...

① Causative organisms:

- Most cases are caused by: Respiratory syncytial virus (RSV), parainfluenzaviruses, Rhinovirus, adenovirus & occasionally Mycoplasma pneumoniae.

② Clinical features:

1. Fever
2. wheezing.
3. Resp. distress.
4. hypoxia of varying degrees.

③ Diagnosis :

- Aetiological conformation may be made by :
  - Immunofluorescence.
  - Viral culture of resp. secretions.

- but increasingly → diagnosis of RSV is made using → Rapid Antigen detection tests.

---

④ Treatment :

- Mainly supportive, consisting of :
  1. Oxygen.
  2. adequate hydration.
  3. Ventilatory assistance if required.

---

* كده خلصنا اول مرضين فى الـ lower resp. infections .. فاضلنا واحد .. هو مش كبير بس متفرع كتير .. امشى معايا فى الـ Pneumonia حتة حتة علشان متتوهش منى ...

3 Pneumonia

* Definition :

"Inflammation of the lung parenchyma of infective origin characterized by consolidation"

. Consolidation is : "A pathological process in which the alveoli are filled with a mixture of : Inflammatory exudate, bacteria & WBCs
. It is revealed on chest X-ray as an opaque area in the normally clear lung fields"

* Pneumonia may be classified clinically into :

① Lobar pneumonia
② Bronchopneumonia
or ③ Atypical pneumonia

But, this doesn't correlate entirely with the bacteriological cause

∴ A Better method is to classify pneumonia by Place of origin into :

① Community acquired pneumonia (CAP)
or ② Hospital acquired pneumonia (HAP) → sometimes known as : Nosocomial pneumonia

* الـ CAP زى ما شفنا فى P.2 بيشملوا الـ ٣ انواع اللى فوق ...
احنا هناخد دلوقتى تانى تقسيمة بالتفصيل .. يلا نشوفها واحدة واحدة ...

(A) Community acquired Pneumonia (CAP)

① Causative organisms :

* For Bronchiopneumonia :

- The commonest is Strep. pneumoniae , the pneumococcus which is the cause of bronchopneumonia .
- The other major bacterial cause are : non-capsulate strains of H. influenzae.

* Atypical pneumonias :

دى اى نوع غير الـ lobar والـ broncho .. ليها اسباب كتيرة واعراض كتيرة
وبالتالى الـ causative org. بتوعها كتير .. تعالوا نشوفهم ...

- Atypical pneumonias comprise a heterogenous group of diseases which have several clinical features in common.

- Aetiological agents include: - Mycoplasma pneumoniae
  - chlamydia pneumoniae.
  - chlamydia psittaci
  - Coxiella burnetii
  - Viruses
  - legionella pneumophila.

- Legionella pneumophila:
  - Is the cause of "Legionnaire's disease".
  - This infection occurs mainly in outbreaks associated é contaminated water systems or air conditioning systems, but sporadic cases arise occasionally.

---

② Symptoms (clinical features):

* عايزة بس أقولكم ايه الفرق بين الـ lobar والـ bronchopneumonia ؟!

- الـ lobar pn. ← دى بتيجى فى lobe معين من الـ lung وممكن تيجى فى lung واحدة .
- لكن الـ bronchopn ← دى بتيجى فى الـ 2lungs مع بعض وبنشوفه فى شكل patches فى الـ x-ray وده بيكون فى الـ base بتاع الـ lungs .

* Symptoms of lobar pneumonia:

1. Cough → initially dry but later producing purulent or blood stained, rust-coloured sputum.
2. Dyspnea

3- Fever.
4 - Pleuritic chest pain.
5 - there is usually a markedly elevated peripheral WBC count & the patient may be bacteraemic.
6 - Chest x-ray shows: consolidation confined to one or more lobes (or segments of lobes) of the lungs.

---

* Symptoms of Bronchopneumonia:

- It is an ill defined entity with similar symptoms
- But x-ray on chest shows: patchy consolidation, usually in the bases of both lungs.

---

* Symptoms of Atypical pneumonias:

- Clinically: 1- Fever 2- Dry cough- 3- Systemic symptoms.
- Radiologically (X-ray): wide spread patchy consolidation in both lung fields.

  * لكن ال bronchopn. كانت في ال base بتاع ال lungs بس، وهنا
  منتشرة في كل ال lung ...

- Biochemically: abnormalities in liver enz. & perhaps evidence of inappropriate ADH secretion.

---

③ Diagnosis :

* Sputum culture :

→ For pneumonia caused by pneumococci & H.influenzae.

* Blood culture :

→ In pneumococcal disease → Blood cultures are frequently +ve.

* Serum & Urine testing :

→ For pneumococcal antigen.

* Serologically :

→ In atypical pneumonia.

* Transtracheal aspiration :

→ In which a cannula is inserted into the trachea & sputum aspirated with a syringe.

* Open lung Biopsy :

* Bronchoscopy :

→ The most commonly used procedure with bronchoalveolar lavage

→ Lavage fluid being uncontaminated by mouth flora → is suitable for microscopy as well as culture.

④ Treatment :

* The ttt of choice for pneumococcal pneumonia is :

Benzyl penicillin or Amoxicillin.

* Alternatives: Co-amoxiclav, parenteral cefuroxime, cefixime or ciprofloxacin.

also, tetracycline or a macrolide are suitable alternatives.

* Tetracyclines are also effective against Chlamydia pneumoniae, C. psittaci & Coxiella burnetii

- Treatment should be continued for 14 days at least.

* Staphylococcal pneumonia → is usually treated with :

Flucloxacillin + another agent such as: Rifampicin, Fusidic acid or Gentamicin.

* Treatment recommendations for legionnaire's disease :

- It is based on that legionella is an intracellular pathogen, and Macrolides penetrate more efficiently than B-Lactams into the cells.

- Experimental data suggest that Azithromycin is likely to be the most effective of the macrolide/azalide derivatives.

- Other agents include: Rifampicin & quinolones.

* حد عارف احنا فين دلوقتي ؟؟ ← احنا كده خلصنا أول واحد من النوعين بتوع الـ pneumonia اللي هو الـ CAP (Community acquired pneumonia)

* معلش انكم اكيد زهقتوا أوي زي ما انا زهقت .. بس خلاص هانت، هناخد النوع التاني في السريع وخلاص ...

(B) Hospital acquired Pneumonia (HAP) (Nosocomial Pneumonia)

① Causative organisms :

* Gram negative bacilli → among the causative org. of nosocomial pneumonia

- The common Gm-ve causes of nosocomial pneumonia will vary between hospitals & even bet. different units within the same hospital.

* لأن النوع ده من الـ pneumonia بيبقى انتشاره في المستشفيات .. يعني المريض يكون داخل بمرض تاني خالص بس بسبب انا مناعته ضايعة .. ممكن يلقط أي مرض في المستشفى .. أو مثلاً ممكن من الـ H_2O supply أو الـ air conditioners او ممكن من الـ ventilators ان يكون اللي قبله كان عنده pneumonia ومهما اتعمل sterilization ، برده ممكن يفضل فيها m.o. ، او بسبب انه بياخد broad spectrum antibiotic فيحصله infection بـ bacteria اصلاً جواه ...

* Pneumococcal pneumonia may develop in hospitalized patients & when hospital H_2O supplies have been implicated in outbreaks & sporadic cases of Legionella infection.

* In case of Ventilator-associated pneumonia → the reasons are usually acquired on intensive care units, where broad spectrum antibiotics are frequently used & where there may be particular "resident flora" with an established resistance pattern.

* يعني normal flora ← لما اديه broad sp antibiotic بتكون resistant عليه وبالتالي
تشتغل وتعمل ال infection ...

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② Clinical Features:

* Nosocomial pneumonia accounts for 10-15% of all hospital acquired infections & Up to 50% of cases are acquired on intensive care units.

* Symptoms:

Sepsis &/or Respiratory failure.

* Predisposing Features:

- Stroke
- Mechanical ventilation.
- chronic lung disease
- Recent surgery.
- Immunosuppression.

* وكلها حاجات منطقية لأن يا إما فيها ventilator وده ينقل العدوى او حاجة
بتخلي ال immunity قليلة ...

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③ Diagnosis:

* Sputum → Is the commonest specimen sent for culture.

* Blood culture → may be positive.

* Bronchoscopy, bronchoalveolar lavage → are often performed.

④ Treatment:

* The choice of antibiotics will be influenced by:
  ① Any preceding antibiotic therapy
  & ② Above all → by the individual unit's experience with hospital bacteria.

* يعني على حسب الـ unit اللي موجود فيها في المستشفى، ممكن اعرف ايه نوع الـbacteria اللي عاملة الـ infection ...

* Tt combinations include:

1- Single agent: Aminoglycoside
→ Single therapy is attractive for ease of administration.

2- Two agents: Ceftazidime & Meropenam
→ have suitably broad spectrum.

3- Erythromycin → may be added if Legionnaire's disease was suspected.

4- Metronidazole → would be required for suspected anaerobic infection.

⑤ Prevention:

* يعني امنع الـ noscomial pneumonia من قبل ما تحصل ، طب ازاي ؟!
← بما ان اهم سبب ليها هو الـ mech. ventilation ← وهم بيقولوا ان
الـ pneumonia اللي بتحصل عن طريق الـ ventilator ← بتحصل الاول ويحصلها
colonization في الـ intestinal tract او الـ oropharynx بتاع المريض قبل
ما تصيب الـ Resp. tract ...

← فقالوا ندي antibiotic يبقى non absabed ← يقعد بس في الـ Gut
يبقى هيمنع الـ colonization وبالتالي يمنع الـ pneumonia ...
الـ mech. دي اسمها (SOD) ← Selective decontaminatn of Digestive tract

← نكتب بقى الكلام اللي قلناه ده ...

* ∘∘ Mechanical ventilation is an imp. predisposing factor for noscomial pneumonia
∘∘ A strategy termed "Selective decontamination of Digestive Tract" (SOD) → has been proposed to try to prevent it.

* This technique is based on the premise that most organisms which cause ventilator-associated pneumonia → initially colonize in the patient's oropharynx or intestinal tract

∘∘ By administering non absorbable antibiotics such as:
an aminoglycoside or colistin to the gut & applying a paste containing these agents to the oropharynx → it is argued that the potential causative organisms will be eradicated & the incidence of pneumonia thereby reduced.

* In some centres → an antifungal agent, as: Amphotericin B
or → a systemic broad spectrum agent as: Cefotaxime
have been added.

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* كده المحاضرة خلصت ..

انا مش هاعرف اعتذر عن تأخيرها الفظيع ده بس كنا دخلنا في الـ midterm على طول وبصراحة انا كنت مخنوقة منها جداً ومش قادرة اقعد اكتبها .. على العموم انا آسفة ..

* كمان كل سنة وانتم كلكم طيبين ... يارب تكونوا قضيتوا ايام حلوة ..

* لو محتاجين اى حاجة فى اى محاضرة .. قولولى وانا تحت امركم ..

Yla.. Pray 4 us a lot
Dr/C.H
Dr/KA.

"لماذا تطلبون الحي بين الاموات ؟!
ليس هو ههنا لكنه قام"